NORTHROP GRUMMAN
Mission Systems

February 4, 2004

C2PC Users Conference
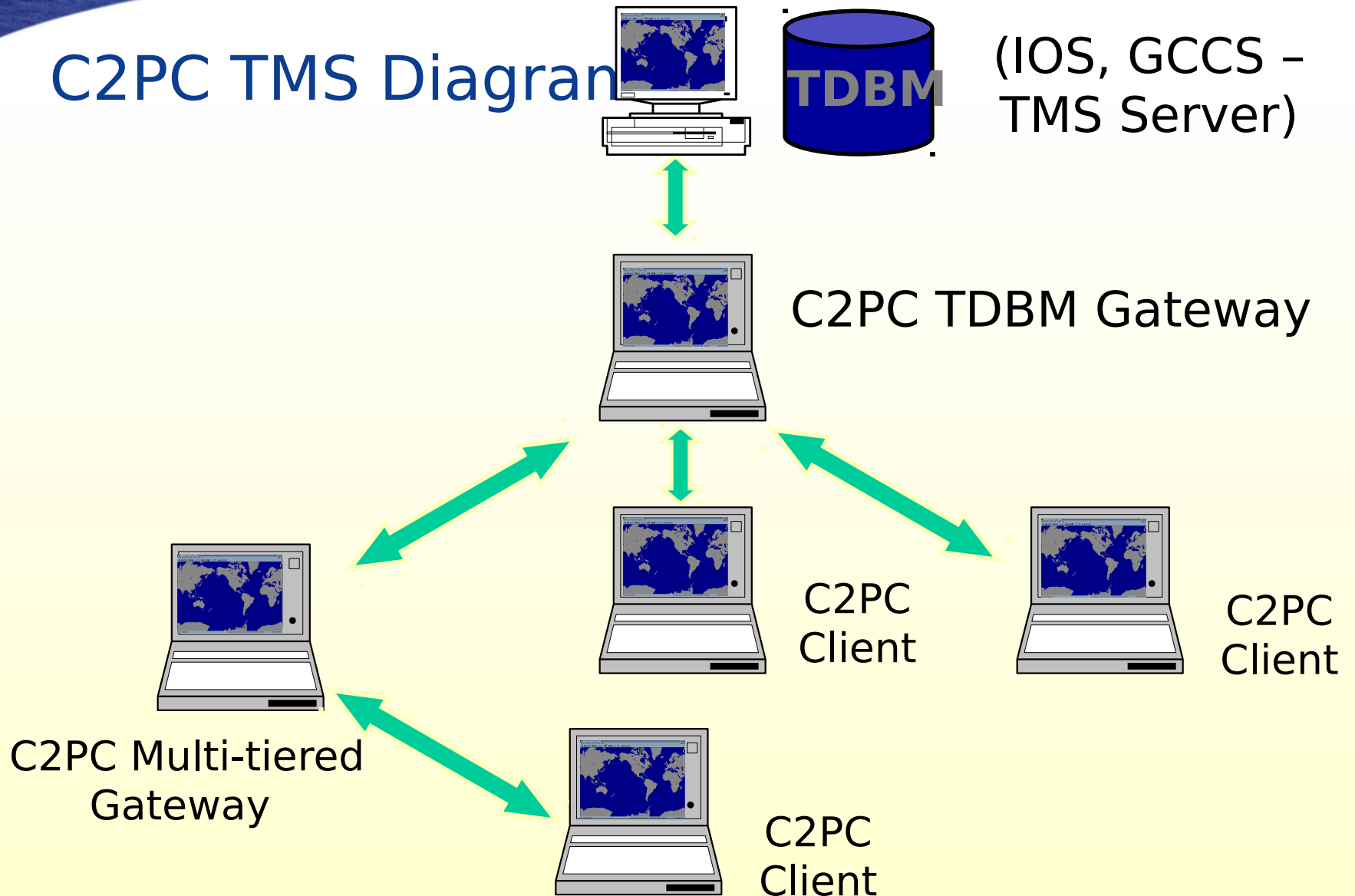
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Introduction

- **C2PC Tactical Management System (TMS)**

  - **process and manage database distribution of tactical track data that includes attributes and history of reported ships, submarines, aircrafts, land units, and other moving or fixed objects of interest**

  - **network connectivity**

  - **medium for distribution of many different data types**

  - **provide tactical data to many graphical user interfaces (GUI)**

  - **provide 3rd party developers with ways to retrieve tactical data via C2PC TMS Application Programmers Interface (API)**
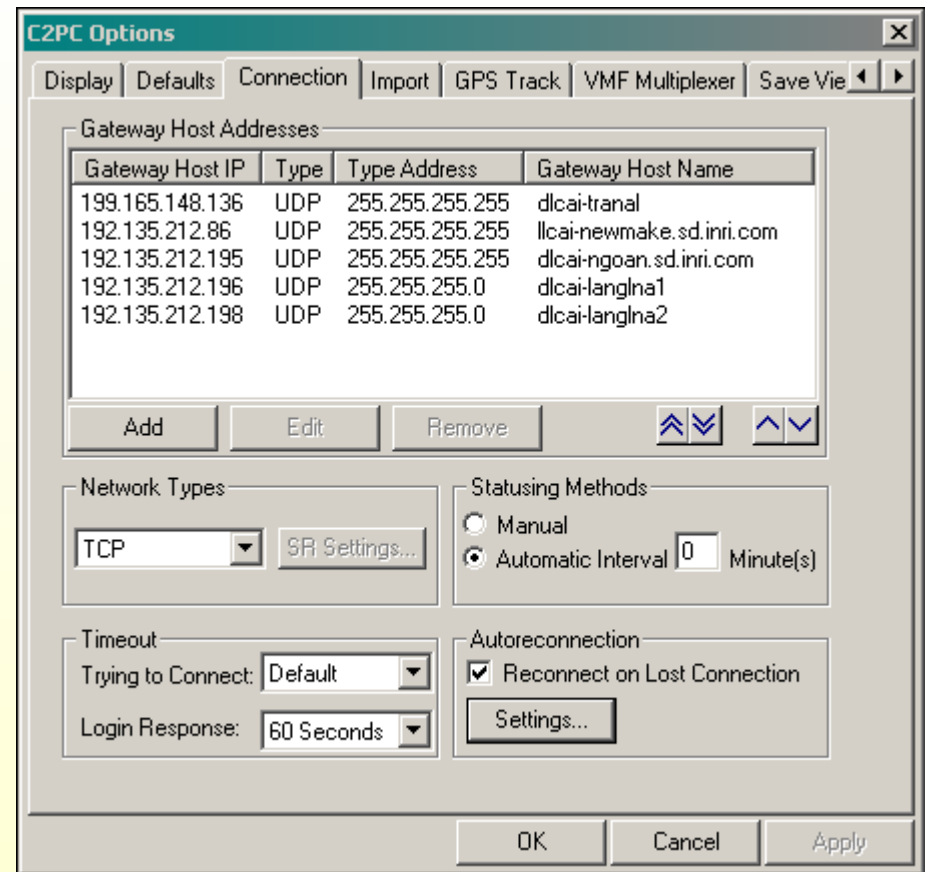
C2PC TMS Diagram

TDBM

(IOS, GCCS – TMS Server)

C2PC TDBM Gateway

C2PC Client

C2PC Client

C2PC Multi-tiered Gateway

C2PC Client

New TMS Features

- **C2PC 6.0**

  - Upgraded to Access 2000
  - Alternate Gateway Selection
  - Gateway Server Switching
  - Domain Host Name Lookup
  - New Client Permissions
  - Planning Injector Enhancements
  - Track Hierarchy
  - TMS Linking
  - Track Plot Clipboard Format
  - Address Book Gateway Plug-in
  - GCCS 4.X Connectivity
  - Air Control Order Message Decoder

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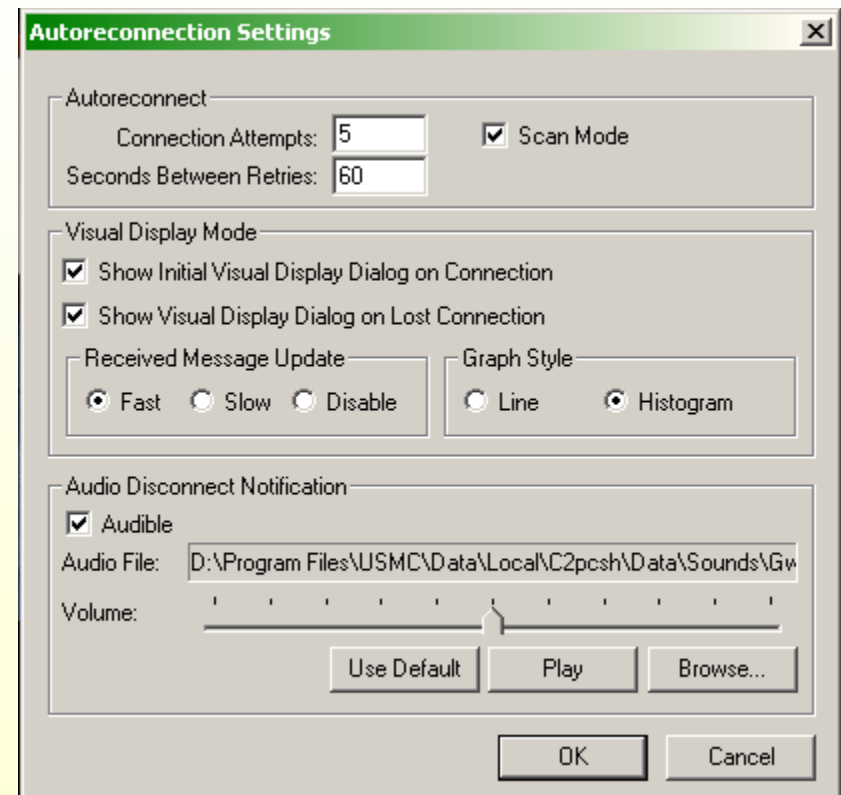# Gateway Enhancements

Gateway Server Switching

- **increased number of alternate C2PC gateways from 2 to 10**

- **available for multi-tiered gateway (MTG) and clients only**

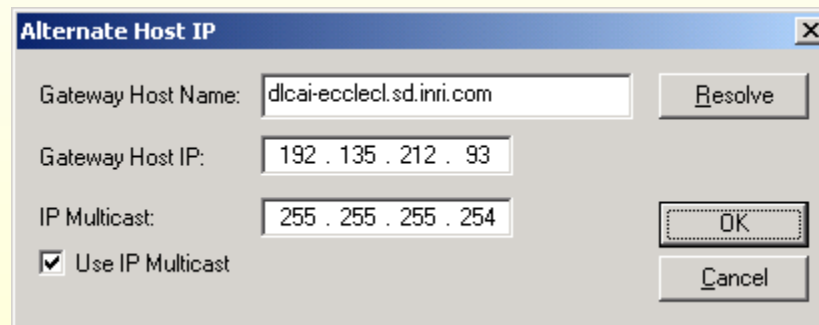# Gateway Enhancements (cont.)

Alternate Gateway Selection

- **Capability to switch to an alternate gateway sequentially down the list or scan the list if current gateway connection is lost**

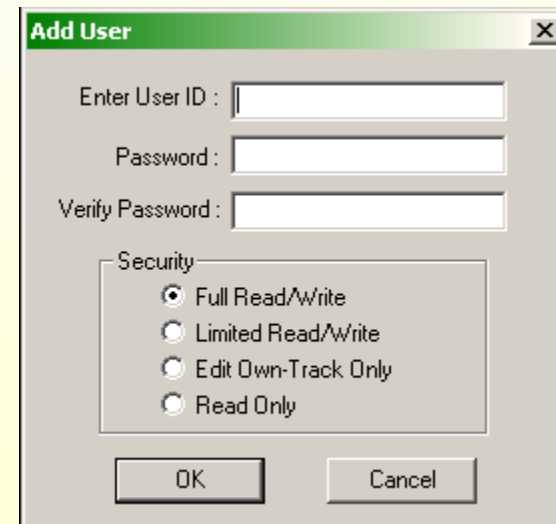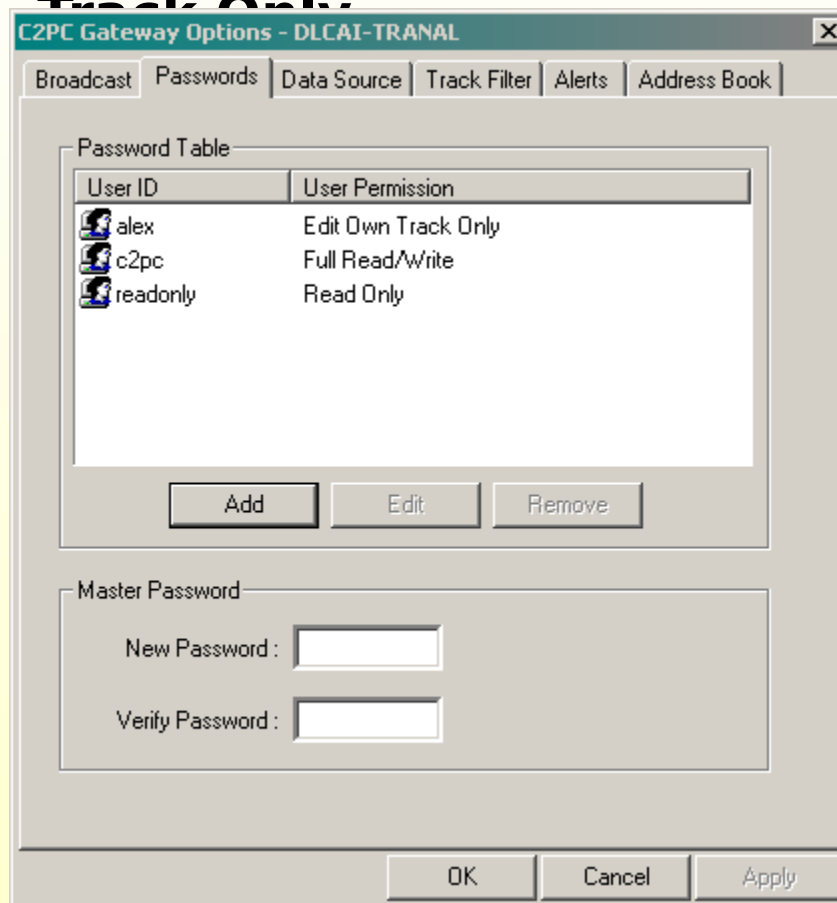# Gateway Enhancements (cont.)

Domain Hostname Lookup

- **allows users to enter a hostname instead of IP address**

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Client Permissions

- **Two new types: Limited Read/Write and Edit Own Track Only**

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Planning (Units) Injector Upgrade

C2PC Planning Injector enables the operator to create a unit hierarchy for planning purposes.

Enhancements

- **allow promotion of unit symbol to a full unit tactical track object**
- **planned units with times that don't meet the current criteria for creation of a valid track will not get created until their time is valid**

This will provide the capability to use the Units functionality during the planning phase of operations, and then to transition into the execution phase without having to manually recreate all the same units.

TMS Linking

C2PC supports the ability for developers to draw objects onto the map using injectors. Currently this results in multiple objects being drawn on the map, even if they all refer to the same real world object .
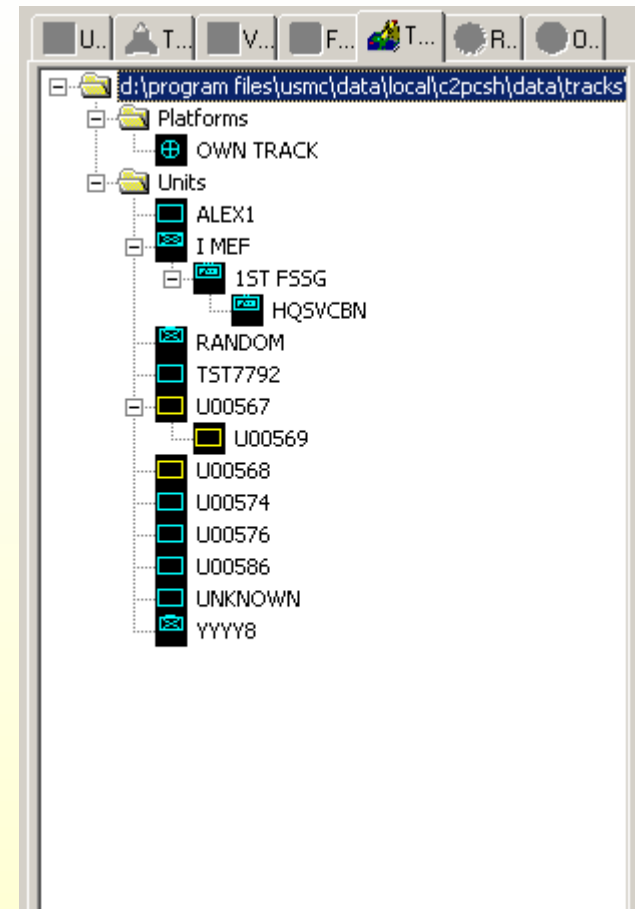
Necessary Enhancement
- **Provide the ability for injectors to reference a track by its Unique ID**

If the track exists, then the injectors may chose not to display a separate symbol on the map representing the track. Instead, TrackPlot will display the track on the map and provide a mechanism for the injectors to receive feedback when their data has been requested .
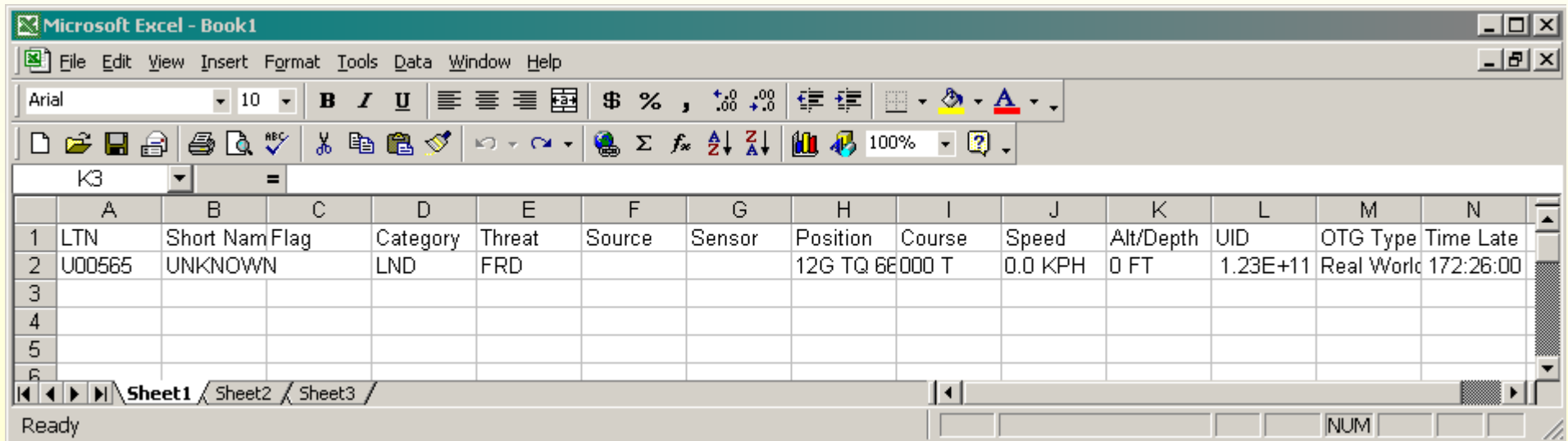
Track Hierarchy

C2PC can display Unit tracks in the TrackPlot tree view similar to the display available currently in the Units Injector .

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Track Plot Clipboard Format

Tracks displayed in TrackPlot injector can be dragged and dropped onto applications that recognizes the clipboard format to display data related to the selected track.

GCCS 4.X TMS Interface

- **Command, Control, Communications, Computers & Intelligence**
  - currently compatible with GCCS 4.5.2.0
  - support all track types supported by ICSF

  - Acoustic
    - **Comint (SI)**
    - **Emitter (Elint)**
    - **Facility**
    - **General**
    - **Link**

  - Platform
    - **PlrsUnit (special Link track)**
    - **Space**
    - **Tbm (Missile track)**
    - **Unit**
    - **VTS (special Link track)**

Address Book Gateway Plug-in

- **mechanism to distribute address book entries within C2PC network**

- **users can choose to selectively receive entries from the gateway using user defined filters**
  - **possible filter fields include URN, Branch, and Part Of**

- **users will receive all entries from the gateway that passes any of its clients' filter**

ACO Message Decoder

- **Air Control Order (ACO) messages is usually used in conjunction with Air Tasking Order (ATO) messages to provide tactical situation awareness during the execution of air missions.**

- **Decodes MIL-STD-2525 (1995, 1998, and 2000 baseline) ACO messages into ACM (air control means) overlays.   (Can also decode NATO ADatP3 standard.)**

- **Operators can visualize these air control objects on the tactical display via the overlay injector.**